

Against Unity

by *Richard Rorty*

Given that the human mind just *is* the human brain, why do most people resist the suggestion that their minds are best described in neurological terms? One of the more helpful explanations that philosophers have come up with lately is an analogy that Hilary Putnam draws between the brain-mind distinction and the hardware-software distinction.

In theory, Putnam says, you can explain your computer's behavior in hardware terms. You can predict what it will do next in the vocabulary of electrical circuitry. But we do not use this vocabulary if we can help it: it is much easier to predict and explain what the computer is going to do by reference to the program it is running. Some day (when we are able to tease brains apart neuron by neuron), it may be possible to use neurological expertise to predict my next utterance. But even then, surely, it will be much easier to predict it in more familiar ways. ("When the argument reaches that point, you can count on Rorty to interject, as he always does, . . .")

Putnam's analogy is reinforced by fellow philosopher Daniel Dennett's suggestion that we attribute minds to organisms or machines whenever we find it easier to predict what they will do by ascribing beliefs and desires to them. Dennett describes such ascription as "taking the intentional stance." We take this stance toward our computer whenever we say things like "The stupid program cannot distinguish between the data-entry X and the instruction Y" or "The computer seems to think that the year 2000 is the year 1900." We take this stance toward our pet when we say "Fido mistakenly inferred from the sounds at the front door that Sieglinde had returned."

From the Dennett-Putnam point of view (though not from that of the many philosophers who insist that mentality is a matter of consciousness, not just of beliefs and desires), there is simply no problem about the relation between the mind and the brain. The brain is the mind under a certain description, and conversely. Nor, seen in this light, is there any problem about whether computers "really" think or dogs "really" infer. Nor is there any problem about what human beings really are. Human beings, like computers, dogs, and works of art, can be described in lots of different ways, depending on what you want to do with them—take them apart for repairs, re-educate them, play with them, admire them, and so on for a long list of alternative purposes. None of these descriptions is closer to what human beings really are than any of the others. Descriptions are tools invented for particular purposes, not attempts to describe things as they are



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in themselves, apart from any such purposes. Our various slowly evolved descriptive and explanatory vocabularies are like the beaver's slowly evolved teeth and tail: they are admirable devices for improving the position of our species. But the vocabularies of physics and of politics no more need to be integrated with one another than the beaver's tail needs to be integrated with its teeth.

For philosophers who adopt this pragmatic, biologicistic way of thinking about the relation of language to reality, there is no more of a problem about the unity of knowledge than about the unity of the human being. There is no more need to bridge gaps among the natural sciences, the social sciences, the humanities, and the arts than to bridge gaps among atom-by-atom, molecule-by-mole-

cule, cell-by-cell, organ-by-organ, thought-by-thought, character-trait-by-character-trait, and developmental-stage-by-developmental-stage descriptions of an individual person. Each of the various academic disciplines does its respective job, just as each of these descriptions of the individual does its.

Statements using one sort of description usually cannot be paired off with statements using another descriptive vocabulary. That is what we mean when we say that vocabularies are irreducible to one another. There is no way to find a sentence in molecule-talk that is true just in case the statement “This cell is unusually large” is true. Nor can one find a sentence in neuron-talk that is true just in case “This person is unusual in her preference for Ravel over Brahms” is true. But such irreducibility does not pose philosophical problems. Nor does it fragment knowledge. As we pragmatists see it, there can and should be thousands of ways of describing things and people—as many as there are things we want to do with things and people—but this plurality is unproblematic.

E. O. Wilson sees these matters very differently, as he makes clear in his forthcoming book, *Consilience: The Unity of Knowledge*. He thinks it is a mistake to think there are many kinds of “explanations appropriate to the perspectives of individual disciplines.” It is a mistake because, he asserts, “there is intrinsically only one class of explanation. It traverses the scales of space, time and complexity to unite the disparate facts of the disciplines by consilience, the perception of a seamless web of causes and effects.” But it is not clear why Wilson thinks that a seamless causal web should entail the possibility, or the desirability, of a seamless explanatory web. The various things people build and repair with tools are, to be sure, parts of a seamless causal web. But that seems no reason to impugn the plumber-carpenter or the carpenter-electrician distinction. The various vocabularies I use to describe and explain what is going on are all applied to the same seamless web, but why should I strive to bring them all together?

What strikes me as a reasonable and necessary division of cultural labor strikes Wilson as fragmentation. He tells us that “the greatest enterprise of the mind has always been and always will be the attempted linkage of the sciences and the humanities. The ongoing fragmentation of knowledge and resulting chaos in philosophy are therefore not reflections of the real world but artifacts of scholarship.”

But contemporary knowledge does not seem to me fragmented, any more than does the home repair industry. The academic disciplines are not, and are not supposed to be, “reflections of the real world.” They are supposed to provide ways of doing things in the real world, of reweaving the great seamless causal web so that various human

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Secret of the Sphinx (1984), by Mark Tansey

purposes might be accomplished. Reality is one, but descriptions of it are many. They *ought* to be many, for human beings have, and ought to have, many different purposes.

Again, philosophy does not strike me as more in chaos than it was in the days of Lucretius or those of Hegel. I have no clear idea why Wilson thinks better discipline among the philosophers, or better linkage among the disciplines, is so important. The history of attempts to produce such discipline and such linkage is not encouraging.

“The unity of science” was a battle cry of the logical positivists in the 1930s and ’40s. These philosophers were impressed by the fact that science had explained a good deal about how the atoms come together to make up molecules, molecules to make cells, cells to make organs, and so on. Like Wilson, they wanted to keep this process going until the relations of psychology and political science to biology became as perspicuous as those of chemistry to physics. They thought that science was coextensive with empirical knowledge, and that those parts of the academy that were not scientific—did not offer well-confirmed empirical generalizations—should hang their heads in shame. They believed that the philosophers who disagreed with them should be especially ashamed, for these philosophers were, they claimed, producing “cognitively meaningless utterances.” The positivists managed to make lot of people

feel guilty: mostly social scientists, but also a few philosophers and literary critics. This guilt caused these people to waste a lot of time trying to make their disciplines scientific.

During the ensuing 50 years, however, these feelings of guilt have gradually worn off. This slow relief was due in part to the work of Thomas Kuhn and other philosophers of science who had become dubious about the idea of a single “method” or “logic” that tied the “hard” sciences together and which ought to be used in the “soft” ones as well. Those philosophers helped us see that our sense of gratitude to “soft” books (books by, for example, Thorstein Veblen, Max Weber, Nietzsche, Freud, William James, Virginia Woolf, Ruth Benedict, and T. S. Eliot) should remain unaffected by their “unscientific” character—their lack of well-confirmed generalizations or well-designed experiments. For these books helped train us to use new descriptive and evaluative vocabularies: they gave us helpful new tools for reflection and deliberation. Bringing all these tools together in the way the positivists had hoped to bring them together, or refusing to use some of them because they could not exhibit proper credentials, came to seem pointless.

Most of us philosophy professors now look back on logical positivism with some embarrassment, as one looks back on one’s own loutishness as a teenager. But this is not how Wilson sees the matter. He says that “logical positivism was the most valiant concerted effort ever mounted by modern philosophers. Its failure or, put more generously, its shortcoming was caused by ignorance of how the brain works. That in my opinion is the whole story.”

Whereas the logical positivists hoped to unify culture by replacing unscientific claims with scientific knowledge, and to do so by isolating a method used to produce such knowledge, Wilson hopes to promote the unity of knowledge by showing the importance for the social sciences, the humanities, and the arts of what he calls “epigenetic rules,” defined as “the inherited regularities of mental development that compose human nature,” rules hard-wired into our brain in the course of its evolution.

I have no doubt that there are such rules. It is possible that there are many more of them than we currently suspect, and also that when our knowledge of brain physiology improves we shall be able to do something like what the logical positivists failed to do. But this latter possibility seems to me rather faint. I was not persuaded by the rules Wilson cites: those which produce “the hallucinatory power of dreams, the mesmerizing fear of snakes, phoneme construction, elementary preferences in the sense of taste, details of mother-infant bonding,” and the like. Such examples are hardly enough to show that social scientists, humanists, and artists should hasten to improve their knowledge of evolutionary biology, nor that they should confidently expect help from future developments in that field.

Consider Wilson’s example of a “prototype for future research aimed at bridging sciences and humanities—the breaking of light into the colors of the rainbow.” He says that this rule “has been placed within a causal sequence running all the way from the

genes to the invention of vocabulary.” So it has, but it is not clear how an understanding of how genes help determine which color words we use will serve as a prototype for demonstrations of the relevance of genes to the books of the authors I listed earlier. Maybe better books on the same topics will someday be written by people better informed about genes and epigenetic rules, but Wilson leaves it very unclear how this might come to pass. When he says that “rational choice is the casting about among alternative mental scenarios to hit upon the ones which, in a given context, satisfy the strongest epigenetic rules,” Wilson suggests that these rules are so many and so various that I bump up against them everywhere, even when I am choosing books to read or candidates to vote for. Maybe they are, but Wilson does not offer sufficient evidence for this very far-reaching claim.

To be persuaded that epigenetic rules are as important as Wilson thinks them, I should need to be told why the genetic constraints on cultural development are likely to prove stronger than hardware constraints on software development. For the hardware-software analogy seems to me applicable not only to the relation between brain and mind but to that

between “hard” and “soft” areas of culture. When Wilson says that “what we call *meaning* is the linkage among the neural networks created by the spreading excitation that enlarges imagery and engages emotion,” this

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strikes me as analogous to “What we call a *program* is a disposition on the part of millions of electrical circuits to switch states in certain sequences.” Both sentences are perfectly true, but neither tells you anything that might help you choose a meaning for your life, or a program for your computer.

When I find Wilson saying that every student and teacher should be able to answer the question, “What is the relation between the natural sciences and the humanities?” I have trouble seeing why he thinks this question so urgent. But I am quite willing to suggest an answer: the natural sciences tell us how things and people work, and thereby enable us to adapt things and people to our needs. The humanities do not tell us how anything works, but rather make suggestions about what to do with the things and people we already have, and what new sorts of things and people we should try to bring into being.

There is, to be sure, no nice clean cut between means and ends, any more than between fact and value, or hardware and software. Still, when we know what we want but don’t know how to get it, we look to the natural sciences for help. We look to the humanities and arts when

we are not sure what we should want. This traditional division of labor has worked pretty well. So it is not clear why we need the further consilience which is Wilson's goal.

The main trouble with the argument for consilience is that we get no account of what the more integrated culture that its author envisages would look like, nor much reason to think that such a culture would be better than the one we have now. Wilson is convinced that the boundary between the humanities and the sciences needs to be blurred in somewhat the same manner as we blurred the boundary between chemistry and biology. But the reason for blurring the latter boundary is much clearer than the need to blur the former. Figuring out how littler and simpler things work helped us figure out how bigger and more complicated things work. But when we turn to questions about what to do with the top-level things (the human brain and the human sexual organs, the rich nations and the poor nations, the research programs of the various academic disciplines), it is not clear that our answers to such moral or practical questions will be improved by better knowledge of how things work.

My positions on vexed intellectual questions (for example, the need for a more unified culture) or vexed political questions (for example, gay marriage) do not seem to rest on premises that natural scientists might someday correct. I have no idea how Wilson would go about tying in his own positions on these matters with his knowledge of cerebral or reproductive physiology. For it is with my brain as it is with my computer: my problem is what program to install in these things.

I pick a program in blissful ignorance of how my computer embodies and executes programs. Since the human brain seems as indifferent to cultural differences as the machine is to my choice of program, there seems no reason why we cannot argue out such differences in blissful ignorance of how the brain works. It may be, as Wilson suggests, that there are biological reasons why some cultures are easier to establish or to preserve than others, just as there are hardware reasons why some programs are easier to write or to install than others. But we need more of an argument than he gives us for the claim that our choice of the sort of society to create, or of the kind of person to be, will be insufficiently informed until we have learned more about our brains. Unlike Wilson, I do *not* "find it hard to believe that had Kant, Moore, and Rawls known modern biology and experimental psychology, they would have reasoned as they did." I wish he had specified more fully just *which* results of these disciplines would have led these philosophers to change their ways.

The idea that we should try to bring the social sciences together with the natural sciences sounds, at first blush, more promising than the idea of erasing the boundary between both and the humanities. But I think this is only because of an ambiguity in the term *social science*. Sometimes it means something like "behavioral science" and at other times something like "policy science." The books by social scientists that provide suggestions about what we should do, rather than predictions about what we will do, are closer to the border that separates their disciplines from the humanities and the arts than to the border that separates them from the natural sciences.

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If we think of social science as causal explanation of social behavior, it is reasonable to suggest that knowledge of how brains work might increase our knowledge of how people interact with each other in communities. For communities are made of people, just as organs are made of cells. So maybe knowing more about the most relevant organ people have—their brains—will someday lock in with what we know about how societies work. The analogy between the individual-society relation and the microstructure-macrostructure relation is tempting.

However, the attractions of the analogy are diminished when one starts asking oneself why psychology and sociology, despite all that grant money, have remained relatively barren. How many of us can cite a startling and useful result produced by either discipline (especially if one brushes Freudian psychology aside as “unscientific”)? Why do the behavioral sciences never seem to come up with either useful predictions or persuasive advice about what we should do? Wilson’s answer to this rhetorical question—that these disciplines have been waiting around for the study of the brain to come to maturity—may be prescient. But it is also possible that the sheer complexity of the criteria by which we ascribe beliefs and desires to individuals will forever prevent explanations by reference to such mental states from being subsumed under universal laws, and from locking in with explanations by reference to physiological states.*

If we turn from the behavioral science side to the policy science side of the social sciences—the side that offers advice about what kind of society to strive for, rather than about what common traits all societies exhibit—the relevance of brain physiology, or of knowledge of how our brains evolved, is even more obscure. To persuade us that better understanding of the brain is as important as he thinks, Wilson would have to convince us that such an understanding would demonstrate the limits of cultural malleability. He would have to show us, for example, that a certain social experiment we are tempted to carry out is probably doomed to fail.


I have trouble envisaging an argument that began with biological premises and came to that sort of conclusion—a conclusion relevant to policy deliberation. I find no such argument in Wilson’s book. The closest he comes to providing such an argument is a demonstration that

*This line of thought—recently restated by philosophers such as Dennett and Donald Davidson—needs more attention than Wilson gives it. Since he invidiously contrasts “folk psychology”—explanation of human behavior by reference to beliefs and desires—with “scientific psychology,” Wilson may regard problems about the ascription of beliefs and desires as beside the point. But we would need better examples than he gives us of the results of “scientific psychology” before he could convince us that these folksy mental states may someday be made obsolete by psychophysiology, just as homunculi were made obsolete by microscopy.

certain cultural universals are susceptible to biological explanation. But we developed the humanities and social sciences not so much to explain cultural universals as to explore cultural alternatives. We developed the arts not just to reiterate ancient archetypes and myths but to construct new worlds for ourselves and our descendants to inhabit.

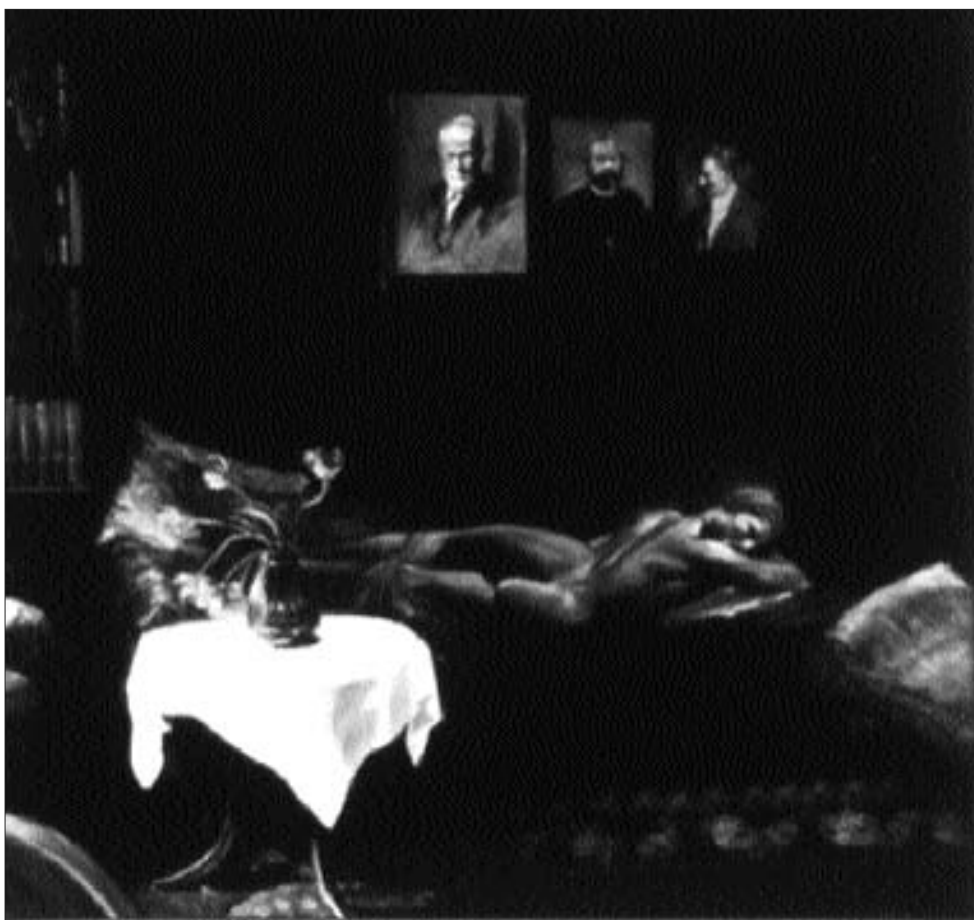
If the last few hundred years of human history have taught us anything, it is that the imagination of our ancestors has usually been inadequate to the achievements of their descendants. We have come up with many things that once seemed unimaginable: the rule of laws rather than men, nation-states whose citizens belong to many different religions, women holding high public office. So we have come to distrust the people who tell us that “you cannot change human nature”—a slogan that was employed against the education of women, interracial marriage, and gay liberation. I doubt that we should put more faith in natural scientists wielding this slogan than in the theologians and philosophers who did so.

Of course, this point about the unimaginability of the future cuts both ways. Wilson could use it to argue that the unified culture of his dreams—a culture in which biology does for psychology, sociology, and political science what chemistry has done for biology—may well come into existence. Stranger things, to be sure, have happened. But Wilson’s dream is not made more plausible when he says that “belief in the intrinsic unity of knowledge . . . rides ultimately on the hypothesis that every mental process has a physical grounding and is consistent with the natural sciences.” I have no doubt that this hypothesis is true, but it simply does not follow that knowledge, or culture, should become more unified than it is. That is like inferring from the fact that every workable piece of software has a hardware realization to the conclusion that we should aim at One Big Unified Program.

n one point, however, I quite agree with Wilson: there is no need to continue the tedious culture wars that C. P. Snow and Martin Heidegger, among others, have tried to incite. In *The Two Cultures* (1959), Snow claimed that scientists are naturally on the political Left, the side of human freedom, whereas *littérateurs* naturally sympathize with the authoritarian Right. This argument was absurd when Snow advanced it 40 years ago, and it sounds even sillier now. Heidegger’s neo-Nietzschean conviction that our Baconian, technological culture has reduced our stature—made us moral and spiritual pygmies—is equally implausible.

Wilson’s book, however, by making similarly implausible claims about the need to unify knowledge, and by suggesting that it is the humanists who are blocking progress toward such unification, seems likely to reignite conflict. Like Snow, Wilson finds it shocking that many humanities teachers know nothing about natural science. He suggests that to neglect science is to neglect the Enlightenment, which is, he rightly says, the origin of most of the good things that have happened in the last couple of hundred years.

But one can be utterly devoted to the Enlightenment’s project of a decent life for all the inhabitants of the planet, a life as free citizens of a



Utopic (1987), by Mark Tansey

cooperative commonwealth, while remaining in brutish ignorance of how computers, brains, or anything else works. I know quite a few people of this sort. I also know some who entirely share this devotion to Enlightenment ideals but, having no taste for philosophy, poetry, or cultural politics, remain largely ignorant of all three. There will be no conflict between these two groups of people unless somebody stirs it up. One way to stir it up is by telling them that their traditional division of labor is misguided.

My overall reaction to *Consilience* is that although advances in biology may someday have greater relevance to the behavioral sciences, and conceivably even to the policy sciences and the humanities, than they do now, we should nevertheless not get on the bandwagon Wilson is trying to set in motion. We should not beat our breasts about our sadly disunited culture. We should not take measures to increase awareness of recent advances in evolutionary biology among the academics, nor to break down barriers between disciplines. I doubt the existence of such barriers. Wilson's book did nothing to change my antecedent belief that any humanist, artist, or social scientist who comes up with a plausible idea about how to get biology into her act is in an excellent position to get a grant, and to make a name for herself.

It might be thought that my reaction to Wilson's project can be traced back to our disagreements on philosophical issues. He holds, and I reject,

the theory that truth consists in correspondence between beliefs and the way things are in themselves, that true beliefs are accurate representations of reality.* Furthermore, my views—especially my scorn for the correspondence theory of truth and for the claim that the natural scientist gets closer to the way things are in themselves than the carpenter, the moralist, or the literary critic—are sometimes described as “postmodernist.” Since Wilson is scathing about “the pathetic reverence given Gallic obscurantism by the American academy,” it may be tempting to see my reaction to his book as that of a Francophile who cannot take science seriously because he is unable to take truth seriously.

Wilson describes postmodernists as holding that, at least in literary criticism, “truth is relative and personal. Each person creates his own inner world by acceptance or rejection of endlessly shifting linguistic signs. There is no privileged point, no lode star to guide literary intelligence. And given that science is just another way of looking at the world, there is no scientifically constructible map of human nature from which the deep meaning of texts can be drawn.”

I do indeed think of science as just another way of looking at the world. It provides us with a spectacularly useful and astonishingly beautiful set of tools, but only one such set among many others. But whether this is the right way to think of science is a quite separate issue from that of the relevance of knowledge of how our brains work to problems about what we should do with ourselves.

Even the most impassioned defenders of the correspondence theory of truth (John Searle, for example) might share my doubts about whether we need, or should try for, a “map of human nature from which the deep meaning of texts can be drawn”—about whether literary criticism can be, as Wilson thinks, “reinvigorated by the knowledge of science and its proprietary sense of the future.” Even a philosopher who argues that natural science works so well because it is so good at capturing the way things really are (an explanation that strikes pragmatists such as myself as vacuous) might be disinclined to follow Wilson’s advice to “lift the anathema placed on reductionism.”

For such a person might agree with me that there are many things we need to do other than represent the way things really are. The analogy I have suggested between the humanities and software might be acceptable even to philosophers who think that the hardware descriptions offered by the natural sciences have a special, privileged relation to reality. Such philosophers may find Wilson’s ideal of unified knowledge dubious simply because they doubt that such privilege entails universal relevance. They may agree with me that Wilson’s claim of universal relevance for his own discipline is premature.

*He also agrees with David Chalmers and Colin McGinn, against Dennett, that there is an interesting philosophico-scientific problem about consciousness: that mentality is as much a matter of raw sensory feels (such as pain) as it is of beliefs and desires. I am on Dennett’s side of that argument, but my disagreement with Wilson on this point seems irrelevant to our larger disagreement about cultural politics.